
Impacts of nuclear-physics uncertainty on nup-process nucleosynthesis

N. Nishimura^a, G. Cescutti^b, A. Murphy^c, T. Rauscher^d, Y. Shoichi^d, C. Frohlich^e, R. Hirschi^f

^aYITP, Kyoto University, ^bINAF - Trieste, ^cThe University of Edinburgh, ^dUniversity of Basel; University of Hertfordshire, ^eNC State University, ^fKeele University

We evaluated the uncertainty relevant to nup-process nucleosynthesis using a Monte-Carlo centred approach. Based on a realistic and general prescription of temperature dependent uncertainty, we have examined the impact on the nup-process in several physical parameters of astrophysical models. We calculated the total uncertainty of final abundances caused by nuclear-physics inputs and identified key reactions that have significant impacts on the nucleosynthesis products. In the presentation, we will suggest the priority list of nuclear reactions to be investigated in future experiments and/or calculations.